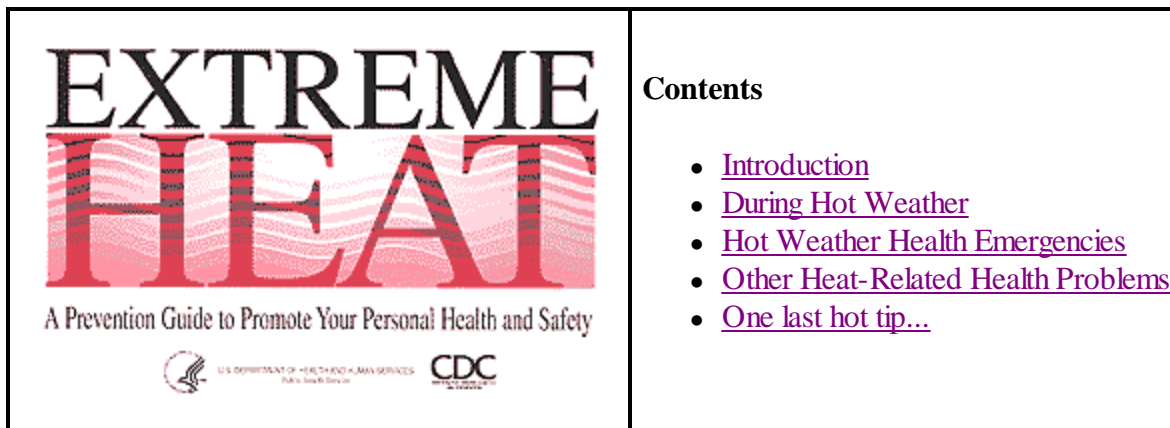


EXTREME HEAT

A Prevention Guide to Promote Your Personal Health and Safety

Centers for Disease Control and Prevention (CDC)
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Introduction

Summer heat waves bring unusually high temperatures that may last for days or weeks. In the summer of 1980, a severe heat wave hit the United States, and nearly 1,700 people lost their lives from heat-related illness. Each year, high temperatures put people at risk.

People suffer heat-related illness when the body's temperature control system is overloaded. The body normally cools itself by sweating. But under some conditions, sweating just isn't enough. In such cases, a person's body temperature rises rapidly. Very high body temperatures may damage the brain or other vital organs.

Several factors affect the body's ability to cool itself during extremely hot weather. When the humidity is high, sweat will not evaporate as quickly, preventing the body from releasing heat quickly. Other conditions that can limit the ability to regulate temperature include old age, obesity, fever, dehydration, heart disease, poor circulation, sunburn, and drug and alcohol use.

Summertime activity, whether on the playing field or the construction site, must be balanced with measures that aid the body's cooling mechanisms and prevent heat-related illness. This pamphlet tells how you can prevent, recognize, and cope with heat-related health problems.

During Hot Weather

To protect your health when temperatures are extremely high, remember to keep cool and use common sense. The following tips are important.

Drink Plenty of Fluid

Increase your fluid intake - regardless of your activity level. During heavy exercise in a hot environment, drink 2-4 glasses (16-32 ounces) of cool fluids each hour.

Caution: If your doctor has prescribed a fluid-restricted diet or diuretics for you, ask your doctor how much you should drink.

During hot weather, you will need to drink more liquid than your thirst indicates. This is especially true for persons 65 years of age and older who often have a decreased ability to respond to external temperature changes. Drinking plenty of liquids during exercise is especially important. However, avoid very cold beverages because they can cause stomach cramps. In addition, avoid drinks containing alcohol because they will actually cause you to lose more fluid.

Replace Salt and Minerals

Heavy sweating removes salt and minerals from the body. These are necessary for your body and must be replaced. The easiest and safest way to replace salt and minerals is through your diet. Drink fruit juice or a sports beverage during exercise or any work in the heat. Do not take salt tablets unless directed by your doctor. If you are on a low-salt diet, ask your doctor before changing what you eat or drink-especially before drinking a sports beverage.

Wear Appropriate Clothing and Sunscreen

Wear as little clothing as possible when you are at home. Choose lightweight, light-colored, loose-fitting clothing. In the hot sun, a wide-brimmed hat will provide shade and keep the head cool.

Sunburn affects your body's ability to cool itself and causes a loss of body fluids. It also causes pain and damages the skin.

A variety of sunscreens are available to reduce the risk of sunburn. The protection that they offer against sunburn varies. Check the sun protection factor (SPF) number on the label of the sunscreen container. Select SPF 15 or higher to protect yourself adequately. Apply sunscreen 30 minutes before going outdoors and reapply according to package directions.

Pace Yourself

If you are unaccustomed to working or exercising in a hot environment, start slowly and pick up the pace gradually. If exertion in the heat makes your heart pound and leaves you gasping for breath, STOP all activity, get into a cool area, or at least in the shade, and rest, especially if you become lightheaded, confused, weak, or faint.

Stay Cool Indoors

The most efficient way to beat the heat is to stay in an air-conditioned area. If you do not have an air conditioner or evaporative cooling unit, consider a visit to a shopping mall or public library for a few hours. Contact your local health department to see if there are any heat-relief shelters in your area. Electric fans may be useful to increase comfort and to draw cool air into your home at night, but do not rely on a fan as your primary cooling device during a heat wave. When the temperature is in the high 90s or higher, a fan will not prevent heat-related illness. A cool shower or bath is more effective way to cool off. Also, use your stove and oven less to maintain a cooler temperature in your home

Schedule Outdoor Activities Carefully

If you must be out in the heat, try to plan your activities so that you are outdoors either before noon or in the evening. While outdoors, rest frequently in a shady area. Resting periodically will give your body's thermostat a chance to recover.

Use a Buddy System

When working in the heat, monitor the condition of your coworkers and have someone do the same for you. Heat-induced illness can cause a person to become confused or lose consciousness. If you are 65 years of age or older, have a friend or relative call to check on you twice a day during a heat wave. If you know anyone in this age group, check on them at least twice a day.

Monitor Those at High Risk

Those at greatest risk of heat-related illness include:

- infants and children up to four years of age
- people 65 years of age or older
- people who are overweight
- people who overexert during work or exercise
- people who are ill or on certain medications

Infants and children up to four years of age are sensitive to the effects of high temperatures and rely on others to regulate their environments and provide adequate liquids. People 65 years of age or older may not compensate for heat stress efficiently, and are less likely to sense and respond to changes in temperature. Overweight people may be prone to heat sickness because of their tendency to retain more body heat. Any health condition that causes dehydration makes the body more susceptible to heat sickness. If you or someone you know is at higher risk, it is important to drink plenty of fluids; avoid overexertion; and get your doctor or pharmacist's advice about medications taken for high blood pressure, depression, nervousness, mental illness, insomnia, or poor circulation.

Adjust to the Environment

Be aware that any sudden change in temperature, such as an early summer heat wave, will be stressful to your body. You will have a greater tolerance for the heat if you limit your physical activity until you become accustomed to the heat. If traveling to a hotter climate, allow several days to become acclimated before

attempting any vigorous exercise, and work up to it gradually.

Use Common Sense

Avoid hot foods and heavy meals-they add heat to your body. Do not leave infants, children, or pets in a parked car. Dress infants and young children in cool, loose clothing and shade their heads and faces with hats or an umbrella. Limit sun exposure during the mid-day hours and in places of potential severe exposure such as beaches. Ensure that infants and children drink adequate amounts of liquids. Give your pet plenty of fresh water, and leave the water in a shady area.

Hot Weather Health Emergencies

Even short periods of high temperatures can cause serious health problems. Two common problems are heat stroke and heat exhaustion.

Heat Stroke

Heat stroke occurs when the body becomes unable to control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. Body temperature may rise to 106°F or higher, within 10-15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not given.

Recognizing Heat Stroke

Warning signs of heat stroke vary but may include:

- an extremely high body temperature (above 103°F, orally)
- red, hot, and dry skin (no sweating)
- rapid, strong pulse
- throbbing headache
- dizziness
- nausea
- confusion
- unconsciousness

What to Do

If you see any of these signs, you may be dealing with a life threatening emergency. Have someone call for immediate medical assistance while you begin cooling the victim:

- Get the victim to a shady area.
- **Cool the victim rapidly using whatever methods you can** For example, immerse the victim in a tub of cool water; place in a cool shower; spray with cool water from a garden hose; sponge with cool water; or if the humidity is low, wrap the victim in a cool, wet sheet and fan him or her vigorously.

- Monitor body temperature, and continue cooling efforts until the body temperature drops to 101-102°F.
- If emergency medical personnel are delayed, call the hospital emergency room for further instructions.
- Do not give the victim alcohol to drink.
- Get medical assistance as soon as possible.

Sometimes a victim's muscles will begin to twitch uncontrollably as a result of heat stroke. If this happens, keep the victim from injuring himself, but do not place any object in the mouth and do not give fluids. If there is vomiting, make sure the airway remains open by turning the victim on his or her side.

Heat Exhaustion

Heat exhaustion is the body's response to an excessive loss of water and salt contained in sweat. Those most prone to heat exhaustion are elderly people, people with high blood pressure and people working or exercising in a hot environment.

Recognizing Heat Exhaustion

Warning signs of heat exhaustion include:

- heavy sweating
- paleness
- muscle cramps
- tiredness
- weakness
- dizziness
- headache
- nausea or vomiting
- fainting

The skin may be cool and moist. The victim's pulse rate will be fast and weak, and breathing will be fast and shallow. If heat exhaustion is untreated, it may progress to heat stroke. Seek medical attention immediately if:

- symptoms are severe, or
- the victim has heart problems or high blood pressure.

Otherwise, help the victim to cool off, and seek medical attention if symptoms worsen or last longer than 1 hour.

What to Do

Cooling measures that may be effective include:

- cool, non-alcoholic beverages, as directed by your physician
- rest
- cool shower, bath, or sponge bath
- an air-conditioned environment
- Lightweight clothing

Other Heat-Related Health Problems

Heat Cramps

Heat cramps usually affect people who sweat a lot during strenuous activity. This sweating depletes the body's salt and moisture. The low salt level in the muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion.

Recognizing Heat Cramps

Heat cramps are muscle pains or spasms - usually in the abdomen, arms, or legs - that may occur in association with strenuous activity. If you have heart problems or are on a low sodium diet, get medical attention for heat cramps.

What to Do

If medical attention is not necessary, take these steps:

- Stop all activity, and sit quietly in a cool place.
- Drink clear juice or a sports beverage.
- Do not return to strenuous activity for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention for heat cramps if they do not subside in 1 hour.

Sunburn

Sunburn should be avoided because it is damaging to the skin. Although the discomfort is usually minor and healing often occurs in about a week, a more severe sunburn may require medical attention.

Recognizing Sunburn

Symptoms of sunburn are well known: skin becomes red, painful, and abnormally warm after sun exposure.

What to Do

Consult a doctor if the sunburn affects an infant under 1 year of age or if these symptoms are present:

- fever
- fluid-filled blisters
- severe pain

Also, remember these tips when treating sunburn:

- Avoid repeated sun exposure.

- Apply cold compresses or immerse the sunburned area in cool water.
- Apply moisturizing lotion to affected areas. Do not use salve, butter, or ointment.
- Do not break blisters.

Heat Rash

Heat rash is a skin irritation caused by excessive sweating during hot, humid weather. It can occur at any age but is most common in young children.

Recognizing Heat Rash

Heat rash looks like a red cluster of pimples or small blisters. It is more likely to occur on the neck and upper chest, in the groin, under the breasts, and in elbow creases.

What to Do

The best treatment for heat rash is to provide a cooler, less humid environment. Keep the affected area dry. Dusting powder may be used to increase comfort, but avoid using ointments or creams—they keep the skin warm and moist and may make the condition worse.

Treating heat rash is simple and usually does not require medical assistance. Other heat-related problems can be much more severe.

One last hot tip...

These self-help measures are not a substitute for medical care but may help you recognize and respond promptly to warning signs of trouble. Your best defense against heat-related illness is prevention. Staying cool and making simple changes in your fluid intake, activities, and clothing during hot weather can help you remain safe and healthy.

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